

AMENDMENT UNDER 37 C.F.R. § 1.111
Application No.: 10/791,544

Attorney Docket No.: Q79871

REMARKS

Claims 1-28 are all the claims pending in the application.

Summary of the Office Action

Claims 1, 3-6, 8-11, 13, 17-19, 21 and 25-28 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Liu et al. (U.S. Patent No. 7,184,421 B1; hereinafter "Liu") in view of Flammer, III (U.S. Patent No. 5,488,608; hereinafter "Flammer").

Claims 2, 7, 12 and 20 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Liu in view of Flammer, and further in view of Ogier (U.S. Patent No. 7,031,288 B2).

Claims 14-16 and 22-24 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Liu in view of Flammer, and further in view of Riihinen et al. (U.S. Patent No. 6,697,331 B1; hereinafter "Riihinen") and Zhu et al. (U.S. Patent No. 5,768,527; hereinafter "Zhu").

Analysis of Claim Rejections

Liu is directed toward establishing routes and transferring information between nodes in ad-hoc data communication networks using on-demand multicast and unicast techniques, which are referred to collectively as Controlled Flood Multicast (CFM) (abstract; col. 3, lines 63-67). Liu discloses that when a node receives a unicast message, the message sequence number and originating node identifier are compared against a list containing similar information from previously received messages (col. 29, lines 26-30). The node then, based on the comparison, either forwards the unicast message to a destination unit, forwards the unicast message to another node, or destroys the message (col. 29, lines 29-38).

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That is, Liu discloses a node (i.e. alleged claimed node) **receiving a unicast message** (i.e. alleged claimed data packet). The received unicast message comprises a message sequence number and originating node identifier. The received message sequence number and received originating node identifier are compared with a saved message sequence number and saved originating node identifier. Based on the comparison, the unicast message is forwarded or destroyed.

Claim 1 is amended to more clearly recite the claimed invention. Specifically, claim 1 as amended recites a system for reliably broadcasting a data packet under an ad-hoc network environment, the system comprising:

a comparing unit which compares a first relay node sequence number with a second relay node sequence number, the first relay node sequence number being contained in a management packet received by at least one node transmitting the data packet to a destination node, the second relay node sequence number being stored in a neighbor table of the at least one node;

a memory unit which stores information of the data packet before the data packet is transmitted to the destination node, wherein the information of the data packet comprises the second relay node sequence number; and

a control unit which determines whether or not the data packet is retransmitted to the destination node by the at least one node according to a result of the comparison.

According to the claimed invention, a node stores a second relay node sequence number in a memory unit, and **transmits a data packet** comprising the second relay node sequence number. The node receives a management packet comprising a first relay node sequence number, and compares the received first relay node sequence number with the saved second relay node sequence number. Based on the comparison, a control unit of the node determines

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whether to **retransmit** the data packet to the same destination node to which the data packet was originally transmitted.

Liu is directed toward a node which receives a message/packet. In contrast, the claimed invention recites a node which transmits a data packet. Since the claimed node transmits the data packet to a destination, the claimed control unit is able to determine whether to **retransmit** the data packet to the same destination. However, in the system disclosed by Liu, no such retransmission may occur since the Liu's disclosed node does not transmit the message/packet to begin with. Accordingly, Liu fails to teach or suggest at least the claimed control unit "which determines whether or not the data packet is retransmitted to the destination node by the at least one node according to a result of the comparison" as recited in claim 1.

Lui further discloses that "[nodes] that receive a unicast message via controlled flooded will attempt to retransmit the message using ordinary unicast (i.e., next hop unicast), if the node is able to determine an appropriate next hop" and otherwise the node retransmits the unicast message using controlled flood techniques (col. 21, lines 44-59). However, Lui merely discloses that each node along a transfer path (i.e. each hop) retransmitting the message toward the next hop or destination. Lui does not teach or suggest retransmitting a data packet (i.e. unicast message) to a destination node, by a node which has already transmitted the data packet once before to the same destination node, as recited in amended claim 1.

Flammer is merely relied upon as allegedly disclosing the claimed memory unit.

Flammer discloses a node which stores information of a data packet in a routing table before transmitting the data packet (col. 3, lines 46-67). However, Flammer fails to address the above-identified deficiency of Lui.

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Accordingly, Applicant respectfully submits that claim 1 is patentable over the applied references. Applicant further submits that claims 2-5 and 28 are patentable at least by virtue of their dependency on claim 1.

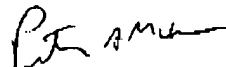
Claims 6, 11 and 19 are amended, and recite one or more features analogous with respect to claim 1. Applicant respectfully submits that these claims are patentable at least for reasons analogous to those given above with respect to claim 1. Applicant further submits that claims 7-10, 12-18 and 20-27 are patentable at least by virtue of their dependency on claims 6, 11 and 19, respectively.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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